

MEMORANDUM

D. Ellsberg

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TO: C. R. Culp

FROM: E. D. Brunner

SUBJECT: RESEARCH IN THE REALM OF INTELLIGENCE

COPIES TO: List

DATE: 7/14/69

MEMO NO.: M-4589

Discussions with DIA and ARPA staff members and others in recent weeks regarding research needed on intelligence problems, to be sponsored by ARPA, have resulted in the delineation of a number of these which might be usefully attacked. On 18 June 1969, Hans Heymann and Al Williams chaired a conference attended by DIA and CIA personnel, and RANDites interested in the field of intelligence, and on 20 June issued a report on the results of the conference. This report, which describes areas of potential research, was distributed for comment to several RAND people, and was discussed with ARPA. The attached paper presents a set of possible research areas for consideration with ARPA, based upon the Heymann-Williams report and the comments upon it received to date.

DIA's request for external assistance stems from their need to allocate their resources more efficiently, particularly at a time when budgets are increasingly constrained. Such a question leads to the possible consideration of a wide range of issues, i.e.: the role of intelligence in decision making and the interface between DIA and the high level policy-makers whom they serve; the generation and evaluation of the users' requirements and the "best" mix of collection and analytical efforts to serve these requirements; the development of new and sophisticated analytical tools for improving the intelligence product; and the internal operations of the intelligence community itself. These general questions subdivide into a wide range of possible research items as will be noted in the attached. It may turn out that some focusing of efforts would be desirable, perhaps by employing a case study approach, or by limiting the number of subjects addressed. Separately considered is the development of new techniques derived from the behavioral sciences from other work. See Fred Iklé's M-4450, 8 July 1969. Some of the basic research efforts discussed in Iklé's memo (e.g., concerning decision theory, Delphi, information theory and value, etc.) could make valuable contributions to this applied work. *by?*

While they are not responsible for the melange appearing in the attachment, it should be noted that several people contributed to its composition, as follows: Steve Hosmer, Amrom Katz, Dan Ellsberg, Andy Marshall, Tim Hallinan, Joe Loftus, Oleg Hoeffding, Fred Iklé, and Charles Wolf, Jr. A more leisurely consideration of all their suggestions may result in an improved Mark II version.

ED

E. D. Brunner

ED:ap

Attachment: "Some Possible Research on Intelligence Problems"

List

7/14/69

M-4589

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SOME POSSIBLE RESEARCH ON INTELLIGENCE PROBLEMS

The potential areas of research on DIA intelligence problems, thru the medium of ARPA, can be viewed as falling into three areas: (a) user-producer issues, (b) problems internal to the intelligence community, and (c) the development of new analytical methods. Fred Iklé has dealt with the last area (M-4450) and therefore sample items concerning it will simply be listed herein without comment.

A. RESEARCH AIMED AT USER-PRODUCER ISSUES

In this discussion, the term "user" refers to top level policy-makers, that is, the President, the NSC, certain Cabinet members, Ambassadors, and the JCS. The term "producer" refers to the DIA, the Service intelligence arms, the CIA, and the NSA (which though largely a collection agency also produces "finished" intelligence) and other agencies of the community. The users of intelligence generate requirements for it, these requirements usually being stated in broad general terms on questions of major importance. The producer must attempt to satisfy these requirements through the production and presentation of timely finished intelligence. In this interface lie certain critical issues which should be the subjects of research, as follows:

(1) An examination of the user-producer relationship. Among the issues which may be addressed here are:

- o how do users and producers communicate, both formally and informally, how does the quality of communication hinge upon personal contacts, and what subjects and degrees of interaction does each consider off-limits?
- o how are users' intelligence requirements generated, and how does the producer evaluate and respond to these requirements? Are there alternative ways of (a) generating and (b) evaluating these requirements? [Can a system of "shadow prices" or some other quasi-market mechanism be of use in this process?]

Impact

- o to what extent are major user needs and interests actually reflected in existing intelligence collection and production priorities? *are "regs" met?*
- o what affects the users' perception of the utility and credibility of intelligence? *[e.g. "track record"]* *in responsiveness*
- o to what extent are intelligence analysts hampered by a lack of feedback from the user and a lack of adequate content concerning the actual policy alternatives facing the decisionmaker?
- o *Impact of intell.*

(2) An analytic ordering and costing of the intelligence product. Before indicating the sorts of questions which might be examined, some preliminary remarks are in order. First, we realize that the community itself is mounting a substantial effort in this general area and has been concerned with it for some time. Next, research in depth would require a good degree of cooperation from intelligence agencies and various clearances for the staff members involved. However, RAND has considerable expertise in the fields requisite to research in this area and might appreciably advance the conceptual and theoretical bases for answers to questions of the following nature:

- o what is the intelligence product in terms of form, content, use, and value?
- o what has been the record of the accuracy and impact of intelligence estimates? (Here case studies of particular kinds of end products, such as SNIES or intelligence support for contingency plans, or indeed of particular individual estimates on some given policy issues, might be useful.)
- o are there ways in which it would be useful to allocate the costs of end products?
- o is it possible to construct a comprehensive program budget that will display product cost in a way that will enable the user to measure cost against some subjective notion of utility and thus constrain users from treating products as free goods?
- o what are some good conceptual solutions to the problems of joint costs and joint products?

(3) Role of intelligence in systematic policy analysis

- o to what extent is the policymaker's analysis now determined by the form and time frame in which he receives intelligence? to what extent is the user made aware of the evidence and methodology underlying the estimate he receives from the community? is he knowledgeable of the strengths and weaknesses of the intelligence product?
- o is the producer aware of the particular information inputs needed for policy analysis, and do policy makers themselves understand these needs?
- o how receptive are users and producers of intelligence to a far greater emphasis on making uncertainty in estimates explicit, such as by treating in detail alternative outcomes, alternative environments, and so forth?

B. RESEARCH ON PROBLEMS LARGELY INTERNAL TO THE INTELLIGENCE COMMUNITY

While sensitive issues, such as organizational interests and clearances are involved concerning efforts in this general area, it nonetheless offers some of the largest potential payoffs for research. Some of the more interesting possibilities are:

- o what are efficient ways of translating users' requirements into the formulation of specific collection needs and the means of satisfying them?
- o how are specific collection requirements generated, modified, and deleted?
- o is it possible to identify least-cost combinations of collection methods applicable for meeting specific requirements?
- o how can scientific methods be usefully applied in the development of new collection technology? what institutional arrangements would be conducive to improved results? *+ analysis*
- o what are the relationships between the intelligence analysts producing finished reports and the collection agencies providing the raw data?

- o how well are the analytical methods employed by intelligence analysts suited on the one hand to the evidence which they have available and on the other hand to the requirements of the policymakers using the products?

Research aimed at developing new analytical tools

This area was treated by Fred Iklé. Listed in the original Heymann-Williams memo were the following:

- o - use of gaming *will you*
- o Delphi techniques
- o computer simulation of conflict
- o introduction of uncertainty into computer models of strategic force exchange
- o decision theory

Interested RAND Personnel

Several staff members have indicated interest in doing research on the questions noted above. The following list records expressions of interest without in any way committing people at this time.

E. Brunner	:	interface between intelligence analysts collection systems
N. Dalkey	:	resource allocation problems: Delphi applications
Mert Davies	:	same as E. Brunner
Dan Ellsberg	:	user-producer relationships; <i>policy analysis; decision theory</i>
Hans Heymann	:	" " "
Bill Jones	:	application of manual simulation techniques
Amrom Katz	:	intelligence requirements problems and R&D on means of intelligence collection
R. Moorstein	:	user-producer relationships

In addition, there are probably other interested people who have not so far expressed themselves.